

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTONGLYPHIDODONTOPS SPRINGERI, A NEW SPECIES
OF DAMSELFISH (POMACENTRIDAE) FROM
THE PHILIPPINE AND MOLUCCA ISLANDS

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The damselfishes (Pomacentridae) are one of the dominant fish groups of tropical reefs in both species and individuals. In spite of their abundance the classification of these fishes remains poorly understood. The majority of species have been assigned by most previous authors to *Chromis*, *Abudefduf* or *Pomacentrus*. The taxonomy of the latter two genera is particularly confusing. Allen (1975) provisionally recognizes 21 genera from the Indo-West Pacific. His classification represents a modification of that proposed by Bleeker (1877). In his study, the genus *Abudefduf* is restricted to relatively large species characterized by 3 to 4 scale rows above the lateral-line and uniserial teeth. Many of the species have alternating light and dark bars on the sides. The genus is typified by the well known circumtropical species, *A. saxatilis*. The majority of species previously included in *Abudefduf* are assigned to *Glyphidodontops* Bleeker. The salient features of this genus include a relatively small size (usually less than 80 mm standard length at maturity) and an elongate body (depth generally in excess of 2.0 in standard length). Many of the species are brightly colored and most exhibit biserial dentition, at least at the front of the jaws. This paper describes a member of this genus which was recently collected in the Philippine and Molucca Islands.

TABLE 1. Counts from 30 type-specimens of *Glyphidodontops springeri*

Locality	Dorsal rays							Gill rakers					
	XI	XII	XIII	10	10½	11	11½	21	22	23	24	25	
Molucca Islands	2	18	1	1	4	11	5	2	6	10	3		
Philippine Islands		9			3	3	3		3	2	3	1	
	Tubed lateral-line scales						Anal rays				Pectoral rays		
	11	12	13	14	15	16	10	10½	11	11½	14	15	16
Molucca Islands		10	9	2			1	2	18		5	15	1
Philippine Islands	1		1	5	1	1		6	3			9	

The methods of counting and measuring are the same as those described by Allen (1972), except the length of the dorsal and anal spines are measured proximally at the base of the spine rather than the point at which the spine emerges from the scaly sheath. Measurements were made with needle-point dial calipers to the nearest millimeter (mm). Standard length is abbreviated as SL. The fraction $\frac{1}{2}$ appearing in the dorsal and anal fin ray formulae refers to a bifurcate condition of the last ray.

The counts and proportions which appear below in parentheses apply to the paratypes when differing from the holotype. A summary of counts for the dorsal, anal, and pectoral fin rays, gill rakers on the first arch and tubed lateral-line scales is presented in Table 1. Proportional measurements of the holotype and several paratypes are expressed as percentages of the standard length in Table 2.

Type-material has been deposited in the following institutions: Bernice P. Bishop Museum, Honolulu (BPBM); British Museum (Natural History), London (BMNH); National Museum of Natural History, Washington (USNM); Western Australian Museum, Perth (WAM).

TABLE 2. Morphometric proportions (in % of SL) of *Glyphidodontops springeri*

Character	Holotype USNM 213577	Paratypes				
		BMNH 1974.8.22.1-9	USNM 209652	USNM 209838	USNM 209652	
Standard length (SL)	33.6	37.5	35.4	32.2	28.4	23.4
Body depth	494	483	466	494	518	500
Head length	333	312	314	335	342	342
Snout length	68	77	68	78	67	68
Eye diameter	110	115	119	121	141	137
Interorbital width	92	88	96	93	99	107
Least depth						
caudal peduncle	149	155	155	149	144	150
Length caudal peduncle	137	147	153	130	116	124
Snout to origin dorsal fin	366	349	376	391	380	385
Snout to origin anal fin	664	659	641	696	701	658
Snout to origin pelvic fin	381	432	390	404	430	397
Length dorsal fin base	586	587	613	590	574	564
Length anal fin base	250	232	243	258	254	256
Length pectoral fin	268	245	198*	280	296	282
Length pelvic fin	283*	333	268*	311	246*	291
Length pelvic spine	152	179	184	186	180	205
Length 1st dorsal spine	65	64	76	78	74	77
Length 5th dorsal spine	185	192	212	208	215	214
Length 12th dorsal spine	131	149	147	140	123	128
Length longest						
soft dorsal ray	202	205	155*	211	215	235
Length 1st anal spine	77	96	102	96	85	81
Length 2nd anal spine	149	189	105*	189	197	150
Length longest anal ray	217	165*	124*	205	222	235
Length middle						
caudal rays	304	253*	141*	313	313	312

* damaged

***Glyphidodontops springeri*, new species**

Figure 1

Holotype: USNM 213577, 33.6 mm SL, collected with rotenone in 8 m off east shore of Piru Bay, Tandjung Liang, Ceram, Molucca Islands by V. Springer and M. Gomon, 10 January 1973.

Paratypes: BMNH 1974.8.22.1-9 (9 specimens, 24.2-37.5 mm SL) collected with dipnets in 20-30 m off Cebu, Philippine Islands, 1974; BPBM 18618 (3, 18.9-33.6 mm) collected with holotype; USNM 209652 (45, 9.6-34.0 mm) collected with holotype; USNM 209838 (5, 17.0-28.4 mm) collected with rotenone in 5-7 m at Piru Bay, Ceram, Molucca

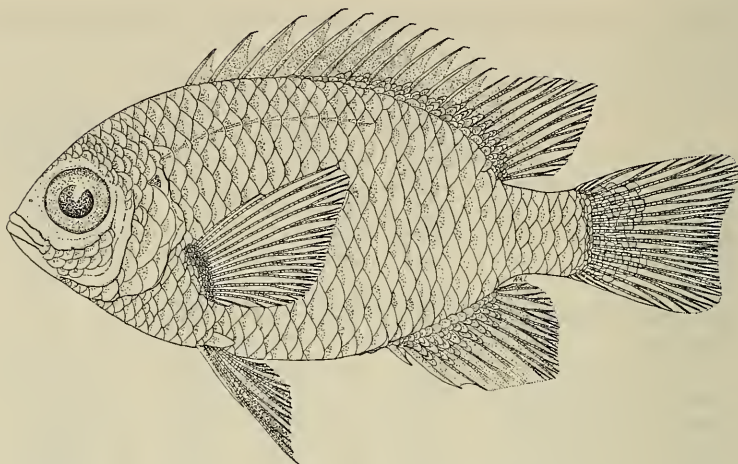


FIG. 1. *Glyphidodontops springeri*, holotype, USNM 213577, 33.6 mm SL, Ceram, Molucca Islands (drawing by Helen K. Larson).

Islands by V. Springer and M. Gomon, 9 January 1973; WAM P25127-001 (3, 18.9–33.6 mm) collected with holotype.

Diagnosis: A species of *Glyphidodontops* with the following combination of characters: dorsal spines usually 12; pectoral rays usually 15; tubed lateral-line scales usually 12 to 14; color mostly blackish (brown in preservative) with bright blue streaks on most scales of lower half of sides.

Description: Dorsal rays XII, 10½ (XI to XIII, 10 to 11½); anal rays II, 11 (II, 11 or 11½); pectoral rays 15 (14 to 16); pelvic rays I, 5; branched caudal rays 13; gill rakers on first arch 23 (21 to 24); tubed lateral-line scales 12 (11 to 15); vertical scale rows from upper edge of gill opening to base of caudal fin 27 (27 or 28); horizontal scale rows from base of dorsal fin to posteriormost scale of tubed lateral-line (exclusive of sheath scales at dorsal base) 1; from lateral-line to anal fin origin 8; predorsal scales about 17 (16 to 18), extending to front margin of orbits; teeth of jaws biserial (inner row of teeth poorly developed and apparent only under high magnification; best observed at middle of lower jaw), more or less incisiform with truncate to slightly notched tips.

Body ovate, laterally compressed, greatest depth 2.0 (1.9 to 2.1) in SL. Head profile conical; head length 3.0 (2.9 to 3.2) times in SL. The following characters are expressed as proportions of the head length: snout 4.9 (4.0 to 5.1), eye diameter 3.0 (2.4 to 2.7); interorbital width 3.6 (3.2 to 3.6), least depth caudal peduncle 2.2 (2.0 to 2.4), length caudal peduncle 2.4 (2.1 to 2.9), pectoral fin length 1.2 (1.2 to 1.3), pelvic fin length 1.2 (0.9 to 1.2), caudal fin length 1.1 (1.1 to 1.2).

Single nasal opening on each side of snout; mouth oblique, terminal; lateral-line gently arched beneath dorsal fin, terminating at scale row below base of ninth dorsal spine; preorbital, suborbital, tip of snout, lips, chin and isthmus naked; remainder of head and body scaled; scales finely ctenoid; preopercular scale rows 2, an additional row of smaller scales covering anterior part of inferior limb; small sheath scales covering approximately one-third to one-half of membranous basal portions of dorsal, anal, and caudal fins; margin of preorbital, suborbital, and preopercle entire; margin of opercle with flattened spine at angle and another near upper corner of gill opening.

Origin of dorsal fin above third tubed scale of lateral-line; anterior spines of dorsal fin gradually increasing in length to about fifth or sixth spine, remaining spines gradually decreasing in length. The following characters are expressed as proportions of the head length: length first dorsal spine 5.1 (4.1 to 4.9), fifth dorsal spine 1.8 (1.5 to 1.6), last dorsal spine 2.5 (2.1 to 2.8), longest soft dorsal ray 1.6 (1.5 to 1.6), first anal spine 4.3 (3.3 to 4.2), second anal spine 2.2 (1.6 to 2.3), longest soft anal ray 1.5 (1.5 to 1.6).

Color in alcohol: Head and body of holotype mostly uniform brownish-blue, lighter on breast and caudal peduncle; spinous dorsal and anterior portion of pelvic and anal fins brownish-blue or dusky; remainder of fins pale; pectorals with black spot covering base.

Paratypes from the Molucca Islands are similar in color although many were damaged and exhibit missing scales and tan splotches on the head and body. The largest paratypes (33.5–37.5 mm SL) from Cebu, Philippine Islands are more colorful with many of the body scales pale blue. There are also scattered blue spots on the head and three pale blue stripes; one extending from top of eye to snout tip; another, very short, from anterior edge of eye to upper lip; and one on suborbital. A small black spot present at upper corner of the gill opening and another on upper pectoral base. Smaller specimens from Cebu are similar to those from the Moluccas.

Color in life: Based on a 35-mm transparency of a paratype from Cebu, photographed in an aquarium: Ground color of head and body blackish; head and lower two-thirds of body with numerous blue scales, those on body giving the appearance of narrow blue streaks; blue lines passing through upper and lower portions of eye; similar blue lines on snout; spinous dorsal fin blue; soft dorsal, caudal, and posterior portion of anal fin pale or slightly dusky; anterior part of anal fin bluish-black with bright blue anterior margin; pelvic fins blackish with bright blue anterior margin.

Remarks: The count of 12 dorsal spines separates *G. springeri* from other known species of *Glyphidodontops*. Most of the members of this genus have 13 spines and at least one other, *G. caeruleolineatus* (Allen), has 14. Specimens of *G. springeri* from Cebu, Philippine Islands tend to have slightly higher gill raker and lateral-line scale counts in comparison with those from the Moluccas (Table 1). *G. springeri* belongs

to a complex which includes *G. azurepunctatus* (Fowler and Bean), *G. hemicyaneus* (Weber), *G. rollandi* (Whitley), *G. talboti* Allen, and *G. traceyi* (Woods and Schultz). These species share a similar dentition and have relatively low soft dorsal, anal, and pectoral counts. They are relatively deep bodied or ovate shaped *Glyphidodontops* and the dorsal profile is distinctive with the membranes between the spines (at least anterior ones) deeply incised. The closest relative of *G. springeri* is *G. hemicyaneus*, differing only in color pattern and dorsal spine count. The latter species generally possesses a variable amount of bright yellow color on the lower half of the body or frequently on the caudal fin and peduncle. It has the normal *Glyphidodontops* complement of 13 dorsal spines (62 specimens counted at the Australian Museum, Sydney). *G. hemicyaneus* is known from the Ryukyu Islands, Philippine Islands, East Indies, New Guinea, and the Solomon Islands. Its distribution overlaps that of *G. springeri* in the Molucca Islands (based on specimens at the National Museum of Natural History, collected by V. Springer).

Named *springeri* in honor of Dr. Victor G. Springer, Curator of Fishes, Smithsonian Institution. Dr. Springer and M. Gomon collected the holotype and most of the paratypes. These were kindly lent to the senior author along with many other pomacentrids from the Molucca Islands.

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